

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): Digital transmission method ~~of the type with error~~  
~~correcting coding~~, comprising: [[,]]  
~~before a step of transmission over a channel, a coding procedure for generating~~  
coding, from a useful information item, a coded information item comprising a useful  
information item and at least one redundant information item,  
transmitting said coded information item over a channel after said coding, and,  
receiving said coded information item,  
~~after the said step of transmission over the said channel, a~~  
decoding ~~procedure in order~~ to obtain, from the a received coded information item ~~to~~  
~~be decoded~~, an estimation of said useful information item with correction of ~~the~~ transmission  
errors based on said at least one redundant information item,  
said coding comprises ~~procedure comprising~~ a plurality of elementary coding steps  
which operate in parallel or in series and are associated with at least one interleaving step and  
~~operating in parallel or in series,~~  
said decoding ~~procedure being~~ is iterative and comprises comprising, for each  
iteration, a plurality of elementary decoding steps associated with interleaving and  
deinterleaving steps, corresponding to said plurality of elementary coding steps associated  
with said at least one interleaving step, each of said elementary decoding steps receives (50)  
~~receiving~~ a set of information to be decoded and generates ~~generating~~ a set of weighted  
output information items ~~associated with a set of decoded information,~~  
~~the said method being characterised in that it further comprises a step of determining~~  
generating a characteristic quantity, (51) ~~adapted to calculate,~~ from each set of said  
weighted output information items generated by each of said elementary decoding steps

~~during each iteration that is for each of said elementary decoding steps (50), a quantity~~

characteristic of the said set of weighted output information items,

~~comparing a comparison step (53) adapted to compare the said characteristic quantity~~  
with a said threshold quantity, and

~~an interrupt step (54) for~~

interrupting said decoding procedure when said characteristic quantity quality reaches  
the said threshold quantity.

Claim 2 (Currently Amended): Digital transmission method ~~of the error-correcting~~  
~~coding type~~ according to Claim 1, ~~characterised in that, each of said elementary decoding~~  
~~steps (50) generating a set of extrinsic information items corresponding to the said set of~~  
~~weighted output information items, the wherein said generating step characteristic quantity~~  
comprises:

calculating a quantity characteristic of a set of extrinsic information. ~~determination~~  
~~step (51) is adapted to calculate, for each of the said elementary decoding steps (50), a~~  
~~quantity characteristic of the said set of extrinsic information items.~~

Claim 3 (Currently Amended): Digital transmission method ~~of the error-correcting~~  
~~coding type~~ according to Claims Claim 1 or 2, ~~characterised in that the wherein said~~  
generating step characteristic quantity comprises:

~~ealeculated by the said characteristic quantity determination step (51) is~~

calculating a statistical quantity characterising the said set of weighted output  
information items.

Claim 4 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according to Claim 3, ~~characterised in that the~~ wherein said generating step  
characteristic quantity comprises:

~~calculated by the said characteristic quantity determination step (51) is the~~  
calculating a mean of the an absolute value of the said set of weighted output  
information items item generated by each of said elementary decoding steps within each  
iteration. ~~calculated on the said set of weighted output information items.~~

Claim 5 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according to Claim 3 ~~or 4~~, ~~characterised in that the~~ wherein said interrupt step  
(54) interrupting step comprises:

interrupting ~~interrupts the~~ said decoding ~~procedure~~ when the said characteristic  
quantity is greater than the said ~~adapted~~ threshold quantity.

Claim 6 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according to Claim 1, further comprising: any one of the preceding claims,  
~~characterised in that the said digital transmission method also comprises~~  
~~a threshold quantity determination step (52) for~~  
determining a threshold quantity as a function of at least one configuration parameter.

Claim 7 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according to Claim 6, ~~characterised in that~~ wherein said determining step  
comprises:

determining a threshold quantity as a function of at least one configuration parameters  
including are the signal to noise ratio, the size of the a useful information block, the

elementary decoding algorithm, ~~the type of~~ quantity used, the maximum number of iterations, and the ~~type of~~ transmission channel.

Claim 8 (Currently Amended): Digital transmission method ~~of the error correcting~~ coding type according to Claim 6 ~~or 7, characterised in that the~~ wherein said determining step ~~threshold quantity determination step (52) comprises:~~

~~uses an adaptive algorithm making it possible to calculate the~~ calculating using an adaptive algorithm said threshold quantity as a function of one or more configuration parameters.

Claim 9 (Currently Amended): Digital transmission method ~~of the error correcting~~ coding type according to Claim 6 ~~or 7, characterised in that the~~ wherein said determining step ~~threshold quantity~~ comprises:

~~determination step (52) uses~~  
~~a pre-established reference table making it possible to select the~~ selecting, using a pre-  
established reference table, said threshold quantity as a function of one or more configuration parameters .

Claim 10 (Currently Amended): Digital transmission method ~~of the error correcting~~ coding type according to ~~any one of Claim~~ Claims 6 to 9, characterised in that the wherein said determining step ~~threshold quantity~~ comprises:

~~determination step (52) determines~~  
selecting a threshold quantity based at least in part on ~~so as to make a compromise~~  
~~between the~~ a performance permitted by the said decoding ~~procedure~~ and ~~the~~ a complexity of this decoding ~~procedure~~.

Claim 11 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according to Claim ~~any one of Claims 6 to 9, characterised in that the~~ wherein  
said determining step ~~threshold quantity comprises:~~

~~determination step (52) determines~~

determining a threshold quantity as a function of a required mean transmission time.

Claim 12 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according Claim ~~to any one of Claims 6 to 9, characterised in that the~~ wherein  
said determining step ~~threshold quantity comprises:~~

~~determination step (52) determines~~

determining a threshold quantity as a function of a ~~an acceptable~~ mean energy  
consumption.

Claim 13 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according to Claim ~~any one of Claims 6 to 12, characterised in that,~~ wherein  
determining step ~~comprises:~~

predefining a tolerable maximum number of iterations and ~~having been predefined,~~  
~~the said threshold quantity~~ ~~determination step (52) determines a threshold quantity by~~  
combining ~~on the one hand~~ a first quantity (63) characteristic of a first set of  
weighted output information items generated by a last elementary decoder during a last  
iteration and associated with a first set of decoded information items corresponding to ~~the~~ an  
error-free decoding of a set of information items to be decoded, and ~~on the other hand~~ a  
second quantity (62) characteristic of a second set of weighted output information items  
generated by ~~the~~ said last decoder during ~~the~~ said last iteration and associated with a second

set of decoded information items corresponding to the decoding of ~~the~~ said set of information items to be decoded in ~~the~~ a case where errors remain.

Claim 14 (Currently Amended): Digital transmission method ~~of the error correcting coding type~~ according to Claim 13, ~~characterised in that the~~ wherein said combining step comprises:

calculating said first quantity and said second quantity quantities (63, 62) based on are statistical quantities characteristic ~~respectively of the~~ said first set of weighted output information items and of ~~the~~ said second set of weighted output information items, respectively.

Claim 15 (Currently Amended): Digital transmission method ~~of the error correcting coding type~~ according to Claim 13, ~~characterised in that the~~ wherein said combining step comprises:

calculating said first quantity and said second quantity quantities (63, 62) that are the a mean means of the an absolute value of the ~~weighted output information item calculated on,~~ ~~respectively, the~~ said first set of weighted output information items and ~~the~~ a mean of an absolute value of said second set of weighted output information items respectively.

Claim 16 (Currently Amended): Digital transmission method ~~of the error correcting coding type~~ according to Claim ~~any one of Claims 13 to 15, characterised in that~~ wherein said combining step comprises: the

calculating using an adaptive algorithm said first quantity and said second quantity quantities (63, 62) ~~are determined,~~ as a function of at least one configuration parameter, ~~by means of an adaptive algorithm.~~

Claim 17 (Currently Amended): Digital transmission method ~~of the error correcting coding type~~ according to Claim ~~any one of Claims 13 to 15~~, characterised in that the said first and second quantities ~~(63, 62) are determined~~, as a function of at least one configuration parameter, ~~by means of an adaptive algorithm.~~

Claim 18 (Currently Amended): Digital transmission method ~~of the error correcting coding type~~ according to Claim ~~any one of Claims 13 to 15~~, characterised in that the wherein said combining step comprises:

determining using a pre-established reference table said first quantity and said second quantity ~~quantities (63, 62) are determined~~, as a function of at least one configuration parameter, ~~by means of a pre-established reference table.~~

Claim 19 (Currently Amended): Digital transmission method ~~of the error correcting coding type~~ according to Claim ~~any one of Claims 13 to 17~~, characterised in that the wherein said determining step comprises:

summing ~~said threshold quantity is the sum of the~~ said first quantity (63) multiplied by a coefficient  $\alpha$  and ~~of the~~ said second quantity (62) multiplied by a coefficient  $(1-\alpha)$ , the coefficient  $\alpha$  being chosen between 0 and 1.

Claim 20 (Currently Amended): Digital transmission method ~~of the error correcting coding type~~ according to Claim 19, characterised in that the wherein said summing step comprises:

choosing said coefficient  $\alpha$  based at least in part on ~~is chosen so as to effect a~~  
~~compromise between the~~ performance permitted by the said decoding procedure and the  
complexity of this said decoding procedure.

Claim 21 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according to Claim 19, ~~characterised in that the~~ wherein said summing step  
comprises:

choosing said coefficient  $\alpha$  ~~is chosen~~ as a function of a required mean transmission  
time.

Claim 22 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according to Claim 19, ~~characterised in that the~~ wherein said summing step  
comprises:

choosing said coefficient  $\alpha$  ~~is chosen~~ as a function of a ~~an acceptable~~ mean energy  
consumption.

Claim 23 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according to Claim ~~any one of Claims 19 to 22,~~ characterised in that the wherein  
said summing step comprises:

determining said coefficient  $\alpha$  ~~is determined by means of using~~ an adaptive algorithm.

Claim 24 (Currently Amended): Digital transmission method ~~of the error correcting~~  
~~coding type~~ according to Claim ~~any one of Claims 19 to 22,~~ characterised in that the wherein  
said summing step comprises:



determining said coefficient  $\alpha$  ~~is determined by means of using~~ a pre-established reference table.

Claim 25 (Currently Amended): Digital transmission method ~~of the error correcting coding type according to Claim 1 any one of the preceding claims, characterised in that the~~ wherein said decoding step comprises:

having inputs and outputs of said elementary decoding steps (50) ~~have inputs and outputs~~ which are weighted, in terms of probabilities, likelihood ratios or log likelihood ratios.

Claim 26 (Currently Amended): Digital transmission method ~~of the error correcting coding type according to Claim 1 any one of the preceding claims, characterised in that the~~ wherein said coding step procedure comprises at least one puncturing step and the said decoding step procedure comprises at least one corresponding depuncturing step.